

Buffalo Hunter

drones in the Vietnam War

by Paul W. Elder

Aerial photographic reconnaissance was a vital part of the U.S. intelligence effort during the Vietnam conflict. In addition to their more routine daily intelligence product, reconnaissance photographs occasionally disclosed extraordinarily significant information on increased enemy capabilities. For example, aerial photography provided the 9 January 1967 issue of *Aviation Week and Space Technology* with the first U.S. photograph of the Soviet ATOL heat-seeking air-to-air missile, the missile being under the wing of a MIG-21 aircraft airborne over North Vietnam. Subsequently, another photograph of a surface-to-air missile (SAM) site in North Vietnam revealed a man in a mysterious white cubicle atop a Fansong radar van. From that picture, U.S. intelligence personnel deduced that the North Vietnamese possessed an optical tracking capability for their SAMs. Both of these photographs provided the Southeast Asia (SEA) air commanders with invaluable intelligence concerning the air defense capabilities of North Vietnam at times when U.S. aircraft were vulnerable to those defenses.

Responsible for these notable discoveries as well as for many thousands of additional feet of significant reconnaissance photography was a drone aircraft which had been gathering intelligence information over SEA, and especially over North Vietnam, since 1964. At that time, these reconnaissance operations functioned under tight security; and to maintain that security, the reconnaissance directors changed the nickname of the operation several times -- BLUE SPRING, BUMBLE BUG, BUMPY ACTION, and finally BUFFALO HUNTER in February 1970. By the BUFFALO HUNTER era, however, the drone's use was no longer a tightly-held secret. Howard Silber in an *Omaha World-Herald* editorial said that the "Buffalo Hunter can spot a water buffalo standing belly-deep in the muck of a rice paddy." Although water buffaloes were hardly the reconnaissance targets for the drones, Silber's wry assessment of their capability is an accurate one.

This report examines the entire BUFFALO HUNTER operation – management, targeting, drone capabilities, mission planning and execution, and operational results – as it supported the Commander, Military Assistance Command, Vietnam (COMUSMACV) and his deputy for airpower, the Commander of Seventh Air Force (7AF). The report discusses only drone photographic reconnaissance although the same basic drone has been used as an electronic intelligence platform and as a leaflet dispenser in operations COMPASS COOKIE and FIELD GOAL, respectively. In fact, some sources imply that electronic intelligence and leaflet missions were embodied in the BUFFALO HUNTER program. Granted, the same drone platform controlled by the same Strategic Air Command (SAC) aircrews conducted electronic intelligence and leaflet missions, but SAC Operations Order 63-70-1 detailing the BUFFALO HUNTER mission addresses only photographic operations.

To fulfill his photo intelligence needs, the Commander of 7AF drew upon three different reconnaissance systems – his own RF-4C tactical reconnaissance (TAC Recce), SAC's SR-71 GIANT SCALE, and SAC's BUFFALO HUNTER drone reconnaissance. The drone system

consisted of four major elements: a DC-130 mother ship for drone launch and control, the drone, a ground control station for drone recovery control, and a CH-3 recovery helicopter for drone retrieval. Of these, the drone was the heart, giving the system the unique capabilities that made drone photo reconnaissance an invaluable asset to the SEA military intelligence community.

While a novel innovation at first, drones came into general use in SEA. At first, because of the highly surreptitious nature of the original drone operations, the drones were code designated SPAs, for Special Purpose Aircraft. By the beginning of BUFFALO HUNTER, however, the drones had been operating in SEA for over five years and their use was commonplace. The North Vietnamese were undoubtedly familiar with the dwarf aircraft that regularly buzzed their cities, airfields, rail lines, bridges, roads, and waterways. (Indeed, they even had one. Imagery from a 3 December 1969 BUMPY ACTION mission over North Vietnam showed a reconnaissance drone sitting intact on Phuc Yen Airfield.) Further, some Air Force officers speculated that North Vietnamese gunners used U.S. drone sorties for target practice and that MIG pilots used them to practice intercepts. That the enemy should use the SPA for target practice was fitting since the drone was originally developed principally to serve as a target in the evaluation of U.S. weapon systems employing surface-to-air and air-to-air missiles. Although modified with cameras and more powerful engines for their reconnaissance mission, the BUFFALO HUNTER drones were basically the same BQM-34A "Firebee" target drone which Ryan (later Teledyne Ryan) Aeronautical Corporation developed for the Air Force at the close of the 1950s.

Following the Cuban missile crisis, the Air Force started a modification program, whereby the target drone could provide a reconnaissance overflight capability without human risk and attendant political involvement such as had occurred in 1960 when a U-2 piloted by Francis Gary Powers was shot down over the Soviet Union and again in 1962 when Air Force Major Rudolph Anderson's U-2 was shot down over Cuba.

The Model 147 drones used for BUFFALO HUNTER operations had evolved through several developmental model series. The primary vehicle was the Model 147SC low altitude drone, designed for use in the altitude range of 500 to 1,500 feet. Designated the AQM-34L by the Air Force, it was approximately 29 feet long, had a 13-foot wing span, and weighed 3,067 pounds. The BUFFALO HUNTER operation was conducted out of U-Tapao Royal Thai AFB, Thailand.

It is appropriate that the story of the reconnaissance drone be told at a time when the effectiveness of the North Vietnamese air defenses has demonstrated the need in modern aerial warfare for "stand-off" delivery systems – for remotely piloted vehicles – of all types. As a possible fore-runner of such systems, the drone had flown hundreds of missions over hostile areas and the operation had never lost a crew member. The BUFFALO HUNTER is a combat-tested, unmanned system which has functioned effectively in a combat environment.

Excerpted from the CHECO report of July 1972 by Maj. Paul W. Elder. Declassified in 2006. The entire report can be obtained from the Library of Air University, Maxwell AFB, AL or from <https://archive.org/details/buffalohunter> For cost effectiveness comparisons between tactical reconnaissance and BUFFALO HUNTER drone reconnaissance, see "Cost Effectiveness of BUFFALO HUNTER Compared to Tactical Reconnaissance," PACAF/DOAR Briefing Notes, December 1971.